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(54) Method for detecting an electrical short condition in a dynamoelectric machine

(57) Method (10) for detecting an electrical short condition in a dynamoelectric machine are described. The method includes determining an operating parameter of a dynamoelectric machine (14) responsive to at least one output signal of the dynamoelectric machine and providing a transfer function (16) for predicting a field current of dynamoelectric machine. The method also includes obtaining a value for a predicted field current (18) of the dynamoelectric machine from the transfer function and the operating parameter and identifying a shorted turn condition of the dynamoelectric machine responsive to a difference between the value of the predicted field current and a value of an actual field current of the dynamoelectric machine (24).

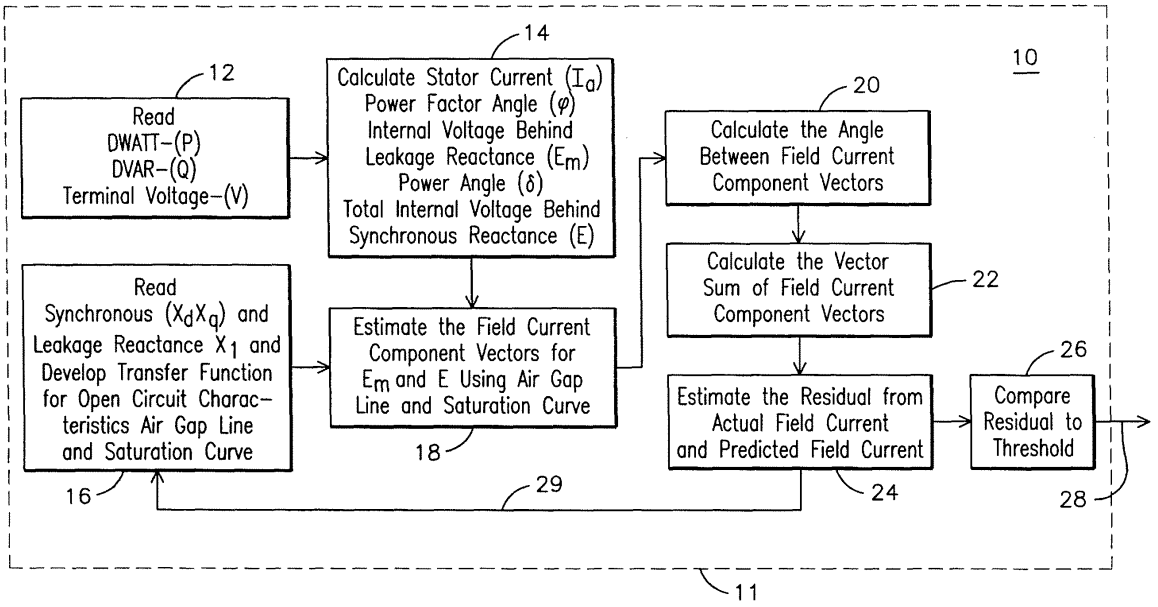


FIG. 2

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EUROPEAN SEARCH REPORT

Application Number
EP 07 12 2546

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	SELLSCHOPP F S ET AL: "DC decay test for estimating <E1>d</E1>-axis synchronous machine parameters: a two-transfer-function approach", IEE PROCEEDINGS: ELECTRIC POWER APPLICATIONS, INSTITUTION OF ELECTRICAL ENGINEERS, GB, vol. 153, no. 1, 1 January 2006 (2006-01-01), pages 123-128, XP006025883, ISSN: 1350-2352, DOI: 10.1049/IP-EPA:20050248 * the whole document *	1-10	INV. G01R31/06 G01R31/34
Y	MAREK FLORKOWSKI ET AL: "Detection of winding faults in electrical machines using the frequency response analysis method; Detection of winding faults in electrical machines using the frequency response analysis method", MEASUREMENT SCIENCE AND TECHNOLOGY, IOP, BRISTOL, GB, vol. 15, no. 10, 1 October 2004 (2004-10-01), pages 2067-2074, XP020066386, ISSN: 0957-0233, DOI: 10.1088/0957-0233/15/10/017 * the whole document *	1-10	TECHNICAL FIELDS SEARCHED (IPC) G01R H02H

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	22 November 2011	O'Callaghan, D

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Y	KAMWA I ET AL: "Three-transfer-function approach for building phenomenological models of synchronous machines", IEE PROCEEDINGS: GENERATION, TRANSMISSION AND DISTRIBUTION, INSTITUTION OF ELECTRICAL ENGINEERS, GB, vol. 141, no. 2, 1 March 1994 (1994-03-01), pages 89-98, XP006001807, ISSN: 1350-2360, DOI: 10.1049/IP-GTD:19949778 * the whole document * -----	1-10	
A	PH BARRET ET AL: "Modelling and Tests, at Fessenheim Power Station of a 1080 MVA Turbogenerator and of its Excitation System", IEEE TRANSACTIONS ON POWER APPARATUS AND SYSTEMS, IEEE INC. NEW YORK, US, vol. PAS-100, no. 8, 1 August 1981 (1981-08-01), pages 3993-4006, XP011169210, ISSN: 0018-9510, DOI: 10.1109/TPAS.1981.316995 * the whole document * -----	1-10	TECHNICAL FIELDS SEARCHED (IPC)

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